Iowa State Capitol Complex Site Feature Application (draft version used)
- Preliminary Proposal-

Project:	**A Voyage Model Solar System Exhibition for the Capitol Complex**
Name of Sponsoring Individual or Group:	**John and Mary Pappajohn** **Philanthropists** **Dr. Jeff Goldstein, Center Director** **National Center for Earth and Space Science Education**
Date of Application:	**June 16, 2008**
Attachments:	**1. Voyage Folder containing Informational Brochures and CD with Simulations** **2. Voyage Exhibition Cleaning** **3. Siting and Stanchion Locations** **4. Preliminary Site Maps** ***5.* Installation and Options** **6. Exhibition Design**

Note: A description of the application process can be found on page 4 of this application, or in the complete Policy for Statues, Monuments, Fountains and Other Site Features on the State of Iowa Capitol Complex ("Policy"), available by contacting the Department of Administrative Services at 515-281-7260, or online at: http://das.gse.iowa.gov/statebldg/capitol_plan_commission.html.

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Part I. Site Features Description and Details

(a) Describe the general concept and subject matter.

Concept: A replica of the *Voyage* Scale Model Solar System exhibition on the National Mall in Washington, DC, is proposed for permanent placement on the Iowa State Capitol Grounds. The exhibition consists of 14 stanchions in aluminum, porcelain enamel, and crystal, locatable along a 2,000-foot walking path, and providing an accurate representation of the Sun and worlds of the Solar System at one10-billionth actual size.

Governor Chet Culver has proposed such placement as a symbol of the State's commitment to science and technology education for students throughout Iowa. Mr. John Pappajohn first proposed the concept to the Governor. The Site Feature Sponsors include John and Mary Pappajohn, and Dr. Jeff Goldstein from the National Center for Earth and Space Science Education.

Background: On a visit to the National Mall in Washington, DC, one can see monuments of a nation—Memorials to Lincoln, Jefferson, and WWII, the Vietnam Veterans Memorial Wall, and the Washington Monument. Standing among them is *Voyage*—a one to 10-billion scale model of our Solar System—spanning 2,000 feet from the National Air and Space Museum to the Smithsonian Castle (visit http://voyagesolarsystem.org.) *Voyage* celebrates what we know about Earth's place in space and our ability to know it. It reveals the true nature of humanity's existence—six billion souls occupying a tiny, fragile, beautiful world in a vast space. It uses the remarkable power of models to develop a deep conceptual understanding of our world and the greater Universe (http://voyagesolarsystem.org/DC/DC_models_power.html.)

Voyage is an exhibition that speaks to all humanity. The National Center for Earth and Space Science Education is therefore making replicas of *Voyage* available for permanent installation in communities world-wide. Dr. Jeff Goldstein, the Center's Director, led the effort for placement on the National Mall, and oversees the *Voyage* replication program. *Voyage* was created in partnership with the Challenger Center for Space Science Education, the Smithsonian Institution, and NASA.

The Nature of this Request to the ISCPC: *Voyage* was designed to conform to the aesthetics of the National Mall as set forth by the L'Enfant Plan of 1791 and the McMillan Plan of 1901, and whose permanent placement on the National Mall required review and approval by the U.S. Commission of Fine Arts and the National Capital Planning Commission from concept through 100% design completion.

The Commissions required that *Voyage* blend sculpture with a rich science education experience for the visitor, and have *minimal* impact on the Mall environment. However, given the definitions set forth in the ISCPC Policy document governing this submission, *Voyage* would be classified as a Significant Impact Site Feature. While it is comprised entirely of sculptural elements, it would not be considered an Art Site Feature given it is a replica of the Mall exhibition. In the context of the Policy document, *Voyage* is a Site Feature "*…intended to….recognize …educational concepts*", specifically, an understanding of Earth's place in space, and humanity's ability to reveal it, as a means of galvanizing student interest in science across Iowa, and inspiring the next generation of Iowa's scientists and engineers at a time when America must decide if it will compete in the high technology marketplace of the 21st century.

To ensure that the *Voyage* exhibition is more than a passive experience for visitors to Des Moines, the exhibition and the content it addresses is proposed to be the focal point for an Iowa-wide science and technology education program capable of engaging entire communities—grade K-12 students, their teachers, their families, and the public. The community programming in Des Moines would be unique given the presence of the *Voyage* exhibition.

The proposed state-wide program initiative is detailed in the companion proposal to this document titled *Voyage Across Iowa*. The initiative includes: 1) programming delivered across the state that invests participants in powerful messages of exploration, and that inspires many to see the exhibit in Des Moines on a visit to the State Capitol, and 2) programming in Des Moines that is designed to maximize the experience of visitors to the exhibition.

The exhibition and related programming deeply reflect grade K-12 content in the Earth and Space Science strand of the Iowa Core Curriculum. The initiative is also compelling given Iowa's rich history in space science and exploration. See Section VI of the companion proposal for an historical overview of Iowa's seminal contributions to America's entry into the space age, and the Attachment to that proposal titled *Iowa Research Assets* for an overview of the substantial research in the Earth and space science currently conducted across the State.

Funding and Timeline: Mr. Pappajohn has committed $350,000 to underwrite: 1) the purchase of *Voyage* ($259,000), 2) its installation (projected at $30,000), and 3) a $61,000 Trust Fund to support ongoing maintenance of the exhibition in perpetuity. The proposed state-wide programming is associated with a $1M budget to underwrite start-up operations over the first two years, and an annual operating budget of $779 K starting in Year 3. The Site Feature Sponsors are actively exploring corporate and federal sources of funding for the state-wide initiative.

Mr. Papppajohn has also committed up to $150,000 as seed money toward the programming, and views his total monetary commitment as an incentive for, and contingent upon, other funders becoming partners in this initiative.

If the ISCPC recommends the request herein, together with the companion proposal for the state-wide program initiative, and the Director approves the recommendation, then fabrication of the exhibition can begin in summer 2008, with installation in Spring 2009.

(b) Describe how the proposal meets the Guiding Principles of the Policy.

1. Preserve and enhance the dignity, beauty, and architectural integrity of the Capitol building, other state office buildings, and the Capitol grounds.

Voyage was designed to enhance the dignity, beauty, and architectural integrity of the National Mall in Washington, DC, considered as sacred national ground. The Site Feature Sponsors find it equally compelling for the Capitol Complex grounds in Des Moines, given the common elements of the two sites, including: the reverential nature and higher purpose of the site, contemporaneously built mid-to-late 19th century architecture, open spaces, and the nature of a visitorship seeking educational and historical experiences.

Dignity:
Voyage provides a deep conceptual understanding of what the human race knows about Earth's place in space, and celebrates that through innate curiosity and the capacity to explore, humanity has the remarkable ability to reveal our place in the greater Universe.

On the National Mall the exhibition is a testament to America's commitment to the

exploration of Earth and space, and the exhibition's core (Sun and inner planets) is located in front of the Smithsonian's National Air and Space Museum, the most visited museum in the world.

In Des Moines, *Voyage* would be a symbol of Iowa's rich contributions to human exploration of Earth and space, and Iowa's dramatic and leading role in taking America into the space age.

Beauty:
Voyage was designed by Vincent Ciulla and his Sarasota-based firm (http://www.ciulladesign.com). The exhibition seamlessly blends sculpture and a rich science education experience, and conveys an aesthetic beauty worthy of placement on the National Mall, as judged by the U.S. Commission of Fine Arts. The exhibition design was viewed as complimentary to the monumental spaces and design aesthetics of Mall architecture.

Voyage consists of 14 anodized aluminum stanchions for: the Sun, the nine planets, comets/asteroids, a description of the Solar System ('Entry' stanchion #1), a description of the Solar System as part of the Milky Way galaxy ('Entry' stanchion #2), and an Explorer's Stanchion dedicated to *how* we have come to know what we know.

The Sun—our star—is represented as a striking gold-anodized metal sphere. All planets and moons with a diameter greater than 1,000 km [24 worlds] are depicted to scale as 3-dimensional spheres laser-sculpted inside solid crystal. Porcelain enamel storyboards with full color imagery provide a compelling up-close view of the planets and moons. In stark contrast, the 3-D models provide the reality of tiny worlds in a vast space.

The design expresses the intellectual content of the subject using shapes and elements evocative of space, flight, and exploration. The 8.5-foot tall units for the Sun and nine planets provide the position of these worlds from a distance. From the front, a unit's tall vertical element virtually disappears from view, and the visitor is presented with the 3-dimensional model world laser-sculpted in crystal, together with a full color porcelain enamel storyboard meant to transport the visitor to that world.

Architectural Integrity:
The design philosophy maintained an emphasis on ordered space, symmetry, and geometry—three prime characteristics of the National Mall.

The *Voyage* stanchions are located along a 2,000-ft path through the operating envelope of a number of museums on the Mall, reflecting different architectural styles. Two of these museums were built contemporaneously with the State Capitol Building in Des Moines, completed in 1886. From the Smithsonian web site:

i. *The Smithsonian Arts and Industries Building, designed by architects Adolf Cluss and Paul Schulze, opened in 1881, hosting an inaugural ball for President James A. Garfield. The building was designed to be symmetrical, comprised of a Greek cross with a central rotunda.*

ii. *Completed in 1855, the original Smithsonian Institution Building* ['The Smithsonian Castle'] *designed by architect James Renwick Jr., whose other works include St. Patrick's Cathedral in New York City and the Smithsonian's Renwick Gallery in Washington, D.C. This Washington landmark is constructed of red sandstone from Seneca Creek, Maryland, in the Norman style (a 12th-century combination of late Romanesque and early Gothic motifs).*

Staff of the National Capital Planning Commission created a simulation of *Voyage* on the National Mall as part of one of three concept and design reviews before the Commission. It is a flight part way down the Mall that provided a good sense of the exhibition's mass and presence within the proposed setting. The simulation, together with rotating, 360-degree views of three of the stanchions, are found on the CD in Attachment 1: the *Voyage* Folder with Informational Brochures. The simulations reflect *Voyage* at the 95% design completion stage.

2. Protect the most scenic public views to and from the Capitol (building).

The exhibition is of human scale, and responsive to the requirement for minimal visual impact on the environment, monumental structures, and museums on the National Mall. Materials and design elements were selected to correspond to the buildings, existing sculptures, and landscape of the environment.

On inspection of the 95% mockup of *Voyage* on the Mall, the Commissioners of the U.S. Commission of Fine Arts requested that the height of the stanchions be increased from 7.5 to 8.5 feet so as to become more dramatic to the visitor but still be of no consequence to the surrounding environment.

We believe the same constraints on exhibition mass and presence exist on the grounds of the Capitol Complex. Both the Capitol Complex and National Mall are characterized by sweeping open space from which visitors can take in a deeply moving vista that includes buildings of monumental mass and significance. *Voyage* was designed for such a space.

3. Protect and enhance the public open spaces on the Capitol Complex when deemed necessary for public use and enjoyment.

Voyage stanchions are placed along a natural walking path and have little to no impact on use of open spaces.

Voyage will enhance the experience of visitors to the Capitol Complex grounds by offering a unique and rich educational experience, and one that provides a natural path past multiple historical and educational site features on the Complex grounds.

4. Recognize the diversity of adjacent neighborhoods and reinforces the connection of the Capitol complex its neighbors and the city of Des Moines

Voyage will serve as an added invitation to Des Moines area school groups and families, and to the general public, to visit the Capitol Complex grounds. See the letters of support from a diverse array of Des Moines area public and private school districts as part of the attached proposal for the state-wide program initiative.

The state-wide programming will also provide added incentive for Iowans to visit the Capitol Complex on a trip to Des Moines.

5. Accommodate pedestrian and motorized traffic that achieves appropriate public accessibility.

Given *Voyage's* minimalist footprint on the Complex grounds, and its design for an existing walking path, it requires no new accommodation for pedestrian or motorized traffic. However, the chosen path should allow visitors and tour groups to stop and contemplate the exhibit without interrupting the flow of pedestrians, and without danger from nearby high-speed motorized traffic.

6. Be consistent with the principles and policies of the Iowa State Capitol Master Plan.

The Site Feature Sponsors have reviewed the *Iowa Capitol Complex Master Plan*, adopted April 2000 and prepared by Brooks Borg Skiles Architecture Engineering, which details requirements for Monuments and Public Art (page 70). The ISCPC policy guidelines governing this submission clearly provide a comprehensive assessment of compliance with the Master Plan.

However a number of elements called out in the Master Plan should be addressed beyond the criteria provided in this Site Feature Application:

> The significance of streets as principal approaches to the Capitol Building, or as elements of orientation within the Capitol Complex, can be enhanced with judicious placement of public art.
>
> Integrate new monuments and public art on the formal Capitol Gardens where they respond to visual and axial relationships of public spaces and entry points in the landscape framework. Art works may be used to orient visitors to the Capitol Complex.

Response: In Section II of this document, Preliminary Site Maps provide potential sites for the exhibition. The 2,000-foot path from the Sun stanchion to Pluto is proposed to be aligned with the east-west axis of the Capitol Complex, and provide multiple entry points to the landscape. If, for example, the exhibition is placed along East Grand Ave., on the inside of the sidewalk (one proposed site), visitors to each of the 14 stanchions would face south—inward to the Capitol Building. The exhibition would serve to create a sense of connection to the core of the Complex grounds, a connection that is reinforced with each successive encounter with one of the exhibition's 14 stanchions.

Each stanchion includes a site map (see Part III) that provides the visitor's location relative to the other stanchions and to landmarks along the walking path. The exhibition therefore

serves to orient the visitor within the Capitol Complex, and extends an invitation to visit other site features, memorials, and buildings. The exhibition is designed to be fully integrated into the landscape, and provide way-finding information to the greater environment.

7. Reflect the diversity of Iowa's people.

The subject matter of the exhibition and related programming embraces the notion that science and exploration are conducted by ordinary people from all walks of life, that education is for all Iowans, and that education is lifelong and joyful for Iowans of any age. See the companion proposal *Voyage Across Iowa* for a more in-depth look at program objectives, including special emphasis on underserved communities.

8. Be nonpartisan.

The subject matter of the exhibition and related programming is symbolic of and speaks to Iowa and America's leadership in the exploration of space, and to the nation's strategic need for science and technology education to inspire the next generation of scientists and engineers. These are non-partisan objectives that can and should be patriotically embraced independent of party affiliation.

9. Provide an enriching experience that illuminates and celebrates common values, and broadens understanding of Iowa's heritage and culture.

Addressed in Part I Section (a), and in great detail in Section VI of the companion proposal *Voyage Across Iowa*.

10. Not identify financial contributors to the Site feature unless authorized by executive order of the governor or joint resolution of the General Assembly.

The *Voyage* exhibition's two 'Entry' stanchions include a place to recognize the underwriter. In Houston, for example, the attribution reads, *Voyage is a gift to Kansas City by the Ewing Marion Kauffman Foundation*.

Regarding an exhibition on the Capitol Complex grounds, it seems that the regulation stated above governing the identification of financial contributors is something that should be explored with the Director, if the Director views this Application favorably.

11. Comply with applicable Americans with Disabilities Act standards.

Voyage had to be designed to be <u>fully</u> ADA compliant, addressing regulations governing, *e.g.*, legibility of storyboards, and wheelchair access. *Voyage* also includes a tactile element on each stanchion that provides the size of the world in bas-relief, and the name of the world in recessed, large font, block lettering. Block lettering was chosen because it is far more accessible to the blind and vision-impaired than is Braille.

12. Honor an event during the lifetime of those who engaged in it only after the10th anniversary of the end of the event.

The exhibition does not specifically honor an event or individual, though it can and should include a dedication to Iowa's contribution to the nation's spacefaring efforts on the two 'Entry' stanchions. In addition, a separate stanchion customized to Iowa science and engineering accomplishments can be commissioned for *Voyage* in Des Moines (though this is not currently part of the project budget.)

We suggest that a Spring 2009 exhibition opening could commemorate the 50th anniversary of the discovery of the Van Allen radiation belts surrounding Earth—the first major scientific achievement of the U.S. space program, and an effort led by Dr. James Van Allen of the State University of Iowa (see Section VI of the companion proposal.)

13. Honor individuals or groups of individuals only after the 10th anniversary of the individual's death or the death of the last surviving member of a group.

Not applicable.

(c) Estimate the anticipated cost of the Significant Impact Site Feature, including all design, development and site feature costs, which include any required modifications to site, such as improvements to sidewalks and utilities, plus a minimum of 10 percent of the total project cost for a maintenance and conservation endowment if a Significant Impact Site feature that is maintained by the Department.

1. *Voyage* Exhibition:

   Exhibition with Explorer's Stanchion: $259,000 (assumes installation in soft-scape with base-plates below grade and covered with mulch—the National Mall installation).

   Estimate for Installation: $30,000 for construction of 14 small concrete footings and attachment of stanchions as per the attached document *Installation and Options*. (National Mall installation was $23,000).

   Endowment set aside: $61,000, or 23% of exhibition cost. This assumes interest income on Endowment is enough to cover the cost of weekly cleaning, and insurance against vandalism.

   Total Exhibition Cost: $350,000

2. State-Wide Program Initiative (see companion proposal for budget detail)

   Cost of 2-years of Start–up Operations: $1 M

   Annual Operating Cost: $779,000

(d) Identify planned sources of funding.

1. Voyage Exhibition

Mr. Pappajohn has committed $350,000 to underwrite the costs identified in 'c' above.

2. State-Wide Program Initiative:

The Site Feature Sponsors are actively exploring corporate and federal sources of funding for the state-wide initiative. Mr. Pappajogn has pledged up to $150,000 in support of programming.

(e) Describe the projected timeline for the project.

If the ISCPC recommends the request herein, together with the companion proposal for the state-wide program initiative, and the Director approves the recommendation, then fabrication of the exhibition can begin in summer 2008, with installation and opening in Spring 2009.

(f) Describe the maintenance and conservation plan for the Site Feature to ensure its continued quality, beauty and function in the future.

Based on experience with the exhibition on the National Mall, *Voyage* requires cleaning every other week. This ensures against build up of primarily dust, pollen, and bird droppings.

The Attachment titled *Voyage Exhibition Cleaning* provides the straightforward cleaning protocols.

As is the case on the National Mall, it is assumed that the organization responsible for maintenance of existing Site Features on the Capitol Complex grounds would integrate *Voyage* exhibition cleaning into their duties, which would be underwritten by interest on the Trust Fund.

It is also strongly recommended that an insurance policy cover damage due to vandalism. *Voyage* was designed using highly durable materials, but that does not guard against someone intent on doing damage.

(g) Designate a single contact person, with contact information (name, address, phone, e-mail).

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(h) OPTIONAL: Would you classify this Site Feature as a Significant Impact Site Feature, a Minimal Impact Site Feature, an Art Site Feature and/or a Temporary Site Feature?

- [X] Significant Impact Site Feature
- [ ] Minimal Impact Site Feature
- [ ] Art Site Feature
- [ ] Temporary Site Feature (to be displayed less than 1 year)

Part II: Site Location

The preliminary proposal should address possible site locations. In suggesting a site, a Sponsor should address the following:

(a) Setting. The space surrounding a Work should provide a setting that is compatible and supportive. In turn, the Significant Impact Site feature in its setting should be supportive of the surrounding design and public functions, including any applicable part of the Master Plan.
(b) Size and scale. There should be coordination between the size and scale of the Significant Impact Site feature in relationship to its setting and surrounding environment.
(c) Relationship to existing Works or features. The Significant Impact Site feature should not be of such size, scale or material as to interfere with any existing Work, feature or building.

The Commission reserves the right to consider additional issues as may become necessary or relevant to its review.

What site(s) do you suggest for location of the proposed Site Feature?

Siting Considerations:

The *Voyage* exhibition is an accurate scale model of the Solar System on the one to 10-billion scale. The accuracy of the model critically depends on first defining the location of the stanchion containing the model Sun and, relative to that position, correctly locating and installing the stanchions for the eight planets (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune), the dwarf planet Pluto, and the stanchion for asteroids/comets.

The Attachment titled *Siting and Stanchion Locations* provides a good overview of:

1) the general considerations for determining an appropriate site for the exhibition,

2) how a Preliminary Site Map can be created, with stanchion locations roughly identified, and

3) the process of precisely identifying locations of the stanchions. This process is meant to ensure that the locations are not in conflict with, *e.g.,* street fixtures and cross-cutting pathways, yet preserve the accuracy of the model Solar System.

Preliminary Site Maps:

Two Preliminary Site Maps were generated for the proposed exhibition site (see Attachment 4.) Map 1 provides a view of the Capitol Complex with the 2,000-foot (600-meter) path required from the Sun to Pluto stanchions shown as red lines. Two positions of the Sun Stanchion were considered, dictating the placement of the two red lines.

Maps 2 and 3 are the corresponding Preliminary Site Maps with the orbits of the planets superimposed to scale. The *preliminary* locations of the eleven stanchions for: the Sun, eight planets, the dwarf planet Pluto, and the stanchion for comets and asteroids, are shown, each marked with a colored dot. Each dot represents the world's average distance from the Sun at the one to 10-billion scale. For the asteroid/comet stanchion, the dot marks the location of the largest asteroid Ceres. Each dot contains a letter designator: M-Mercury, V-Venus, E-Earth, M-Mars, A-Asteroid main belt, J-Jupiter, S-Saturn, U-Uranus, N-Neptune, and P-Pluto.

Three of the 14 stanchions are not shown—the Explorer's Stanchion, and two 'Entry' Stanchions—given they do not reflect the positions of Solar System objects, but rather contain important information about the nature of the Solar System, and how we explore it. The Explorer's stanchion and one of the Entry stanchions are located near the Sun. The other Entry stanchion is located near Pluto.

Flexibility in Locating the Stanchions:
Maps 1 and 2 are not meant to dictate stanchion location, but provide a first cut at understanding the footprint of the exhibition based on two defined locations for the model Sun. There are many appropriate locations for the stanchions as defined by the intersection of the orbits and the natural walking paths on the site, *e.g*., along the E. Grand Ave. sidewalk. From an educational vantage point it is preferable to place the stanchions along a straight path, but it is not necessary. The intersection of orbits and walking paths makes customized siting possible while preserving the exhibition's accuracy.

In addition, the planets, dwarf planets, asteroids, and comets do not orbit the Sun in circular orbits. Each travels in an elliptical orbit, which is associated with a closest approach to the Sun (perihelion distance) and farthest approach from the Sun (aphelion distance.)

Each stanchion identified on the maps is associated with a colored circle centered on the Sun. Each circle has a thickness, with an inner radius and outer radius defining the closest distance and farthest distance from the model Sun, respectively. (The thickness of the circle for the asteroid/comet stanchion reflects the asteroid Ceres' variation in distance from the Sun.)

Each world is therefore associated with a range in distance from the Sun, and each stanchion can therefore be placed within a corresponding scaled range of distances from the model Sun. This provides a community some flexibility in avoiding cross-cutting walkways, lighting fixtures, underground utility vaults, *etc*., which often reflect the reality of a potential site. Note, however, that each stanchion should be located as close as possible to the average distance from the model Sun.

Setting:
The appropriateness of the exhibition for the setting has been addressed in Part I (b) 1, 2, 3, 4, 5, and 6.

Size and Scale:
The appropriateness of the exhibition's size and scale relative to the setting has been addressed in Part I (b) 1 and 2.

Relationship to Existing Works or Features:
The flexibility described above in identifying the locations of the exhibition's stanchions should ensure that there is no negative impact to existing Site Features. Conversely, the exhibitions positive impact on the environment and the corresponding features is covered in Part I (b) 2, 4, and 6.

Installation Options:
Based on site conditions, stanchions can be installed in either softscape, with base-plates underground and covered with mulch (as is the case on the National Mall), or in a hardscape area, where base-plates are mounted flush with an existing paver surface and covered by finished covers (as in the case of Kansas City). See the Attachment *Installation and Options* for full details. Note that the budget estimate contained herein does not include flush mount with covers, which would increase exhibition cost by 5%.

Conclusion:
There are multiple options for installation of an accurate *Voyage* scale model Solar System on the Capitol Complex grounds such that the exhibition does not interfere with visitor flow, and does not diminish or impinge upon the aesthetic beauty and functionality of existing Site Features. Conversely, *Voyage's* design features will allow it to be seamlessly integrated into the fabric of the Complex, enhance the visitor experience, and through wayfinding information provide a connectedness to the greater Complex environment.

Part III: Design Description

In proposing a design for a Site Feature, the Sponsor should include a description of how the proposed design considers and responds to each of the following:

(a) **Setting**. The space surrounding a Site Feature should provide a setting that is compatible and supportive. In turn, the Site Feature in its setting should be supportive of the surrounding design and public functions, including any applicable part of the Master Plan.

(b) **Size and scale**. There should be coordination between the size and scale of the Site Feature and its setting.

(c) **Relationship to existing Site Features**. The Site Feature should be of such size, scale and material as to minimize interference with any existing work, feature or building.

(d) **Design Description**. In proposing a design for a Site Feature there should be a description of how the proposed design considers and responds to each of the following:

(i) Legibility and meaning. The intended message should be clear and understandable and convey meaning that will have significance to future generations. Art Site Features will be given greater flexibility in applying this criterion.

(ii) Approachability and accessibility. Site Features should be designed to be accessible and engaging because they are often a gathering point and therefore should be designed to meet all applicable Americans with Disability Act standards.

(e) **Materials**. Materials should be chosen for durability, visibility and maintainability and in general should be aesthetically consistent with materials used elsewhere in structures throughout the Capitol Complex. Art Site Features will be given greater flexibility in applying this criterion.

(f) **Evening illumination**. Outdoor Site Features may be enhanced with night illumination integral to its design. Such illumination should not conflict with other Site Features, open space, buildings and their inhabitants and the overall landscape, and should be considered when designing the maintenance and conservation endowment fund.

(g) **Completion.** Site Features that by their nature cannot be completed at the time of initial installation (such as those to which names or dates are to be added over time) are discouraged.

(h) **Text and inscriptions**. Lists of any kind are discouraged and those relating to financial contributors are prohibited unless authorized by gubernatorial or legislative action. Any text or inscriptions should be meaningful to the broadest possible audience and should include an interpretive component explaining the purpose of the Site Feature. Art Site Features will be given greater flexibility in applying this criterion.

Describe the design for the proposed Site Feature. Additional pages or visuals may be attached to this application.

Setting:
The appropriateness of the exhibition for the setting has been addressed in Part I (b) 1, 2, 3, 4, 5, and 6.

Size and Scale:
The appropriateness of the exhibition's size and scale relative to the setting has been addressed in Part I (b) 1 and 2.

Relationship to Existing Works or Features:
The flexibility in identifying the locations of the exhibition's stanchions should ensure that there is no negative impact to existing Site Features. Conversely, the exhibitions positive impact on the environment and the corresponding features is covered in Part I (b) 2, 4, and 6.

Design Description:
See Attachment *Exhibition Design* addressing design philosophy, design elements, materials employed, and ADA compliance.

Evening illumination:
The exhibition does not include provisions for evening illumination. Such illumination would be beneficial given it extends the visitor experience to evening hours. However, this would require placement of the stanchions in an environment with pre-existing ambient lighting, which was the case on the National Mall.

Completion:
13 of the exhibitions stanchions are complete upon installation. The Explorer's stanchion includes a complete storyboard, but also a ring of 50 medallions that can be used to mark milestones in Solar System exploration as they occur (*e.g.*, Phoenix Lands at Mars' North Pole, May 31, 2008.) It is expected that 3-4 medallions a year can be inscribed with milestones, each affixed with a ceremony marking the occasion, and celebrated state-wide through the *Teachable Moments in the News* initiative detailed in the companion proposal. It is envisioned that the medallion ring will be used to record Iowa's research contributions to Solar System exploration.

The medallion ring is only a small component of the exhibition. It is one of a number of approaches used to ensure that the exhibition serves as a bridge between ongoing research on the frontiers of science and the education of students, teachers, and the pubic with regard to that research.

Text and inscriptions:
Text and imagery contained on the storyboards and in the crystal were defined and refined based on a significant third party formative assessment study conducted on exhibition prototypes on the National Mall. Text assumes little background information in the earth and space sciences, and as is consistent with successful exhibitions for the public, reflects a target audience of about 5th grade. The design team took great pains to paint an understanding of alien landscapes using terminology and experiences familiar to the visitor—a technique we've termed 'building bridges to the familiar'. Sample storyboard text and imagery can be found at http://www.voyagesolarsystem.org/exhibition/ex_imagery.html. It is informative, powerful, and poetic, and strives to create conceptual understanding through these 'bridges to the familiar'.

To ensure that the visitor experience can start at any stanchion, there are a number of interpretive components that define the exhibition, and place the stanchion in the context of the *entire* exhibition. These include the site map, directional information, and the following text next to, *e.g.,* the model Jupiter at the Jupiter stanchion:

This is the planet Jupiter and its 4 largest moons at one 10-billionth actual size.

If Jupiter were this big, how far away would the Sun and other planets be? Look at the map on the lower panel to find your position in the solar system.

Part IV: Additional Information

Is there any additional information, including attachments, you wish to submit for consideration with the proposal?

N/A

AFTER COMPLETING THIS APPLICATION, PLEASE SUBMIT IT TO THIS ADDRESS:
Director, Department of Administrative Services
Hoover State Office Building, 3rd Floor
1305 E. Walnut Street